CLAIMS

What is claimed is:

[c01]   A method of processing raw images for display comprising the steps of:

a first step of correcting the raw images with respect to an offset image to generate an offset corrected image; and

a second step of adjusting a level of the offset corrected image with respect to a gain adjust to generate a gain corrected image.

[c02]   The method of claim 1 wherein the second step of adjusting includes employing saturation arithmetic to clip the level of the offset corrected image.

[c03]   The method of claim 2 further comprising:

a third step of adjusting a window of the gain corrected image with respect to a reference window to generate an output image; and

a fourth step of packing the output image into a register for display.

[c04]   The method of claim 3 wherein the raw image comprises an N pixel sub-image, wherein the N pixel sub-image is divided into M sets of N/M pixels each, wherein N is an integer multiple of M, and wherein the first through fourth steps are applied to each of the M sets and the M sets are simultaneously processed in parallel by the first through fourth steps.

[c05]   The method of claim 4 wherein N equals 64 and M equals 4.

[c06]   The method of claim 3 further comprising a fifth step after the fourth step of separately processing any bad pixels of the raw image.

[c07]   The method of claim 3 wherein the raw data comprises cardio images or a fluoro-rad image and wherein the first through fourth steps are applied at the same time to the raw data.

[c08]   The method of claim 3 wherein the second step of adjusting includes a linear transformation and wherein the third step of adjusting includes employing saturation to adjust the window.

[c09]   The method of claim 2 wherein the raw image comprises an N pixel sub-image, wherein the N pixel sub-image is divided into M sets of N/M pixels each, wherein N is an integer multiple of M, and wherein the first and second steps are applied to each of the M sets and the M sets are simultaneously processed in parallel by the first and second steps.

[c10]   The method of claim 2 wherein single instruction multiple data (SIMD) instruction architecture is used and wherein the transformation exploits the SIMD architecture whereby branches to clip the offset corrected image are avoided with the saturation arithmetic.

[c11]   The method of claim 1 wherein the raw images comprise x-ray images and wherein the offset image is an x-ray image corresponding to the absence of the x-rays.

[c12]   The method of claim 1 wherein the gain adjust comprises a composite image acquired by calibration.

[c13]   Software for performing the method of claim 1.

[c14]   A system for processing raw images for display comprising a processor:

correcting the raw images with respect to an offset image to generate an offset corrected image;

adjusting a level of the offset corrected image with respect to a gain adjust by employing saturation arithmetic to clip the level of the offset corrected image to generate a gain corrected image;

adjusting a window of the gain corrected image with respect to a reference window to generate an output image; and

packing the output image into a register for display.

[c15]   The system of claim 14 wherein the raw image comprises N pixel sub-image, wherein the N pixel sub-image is divided into M sets of N/M pixels each, wherein N is an integer multiple of M, and wherein the correcting, first adjusting, second adjusting and packing are applied to each of the M sets and the M sets are simultaneously processed in parallel by the processor.

[c16]   The system of claim 15 wherein N equals 64 and M equals 4.

[c17]   The system of claim 14 wherein the raw images comprise x-ray images and wherein the offset image is an x-ray image corresponding to the absence of the x-rays.

[c18]   The system of claim 14 wherein the gain adjust comprises a composite image acquired by calibration.

[c19]   The system of claim 18 further comprising separately processing any bad pixels of the raw image.

[c20]   The system of claim 14 wherein the raw data comprises cardio images or a fluoro-rad image and wherein the correcting, first adjusting, second adjusting and packing are applied at the same time to the raw data.

[c21]   The system of claim 14 wherein single instruction multiple data (SIMD) instruction architecture is used to process the data through the processor and wherein the transformation exploits the SIMD architecture whereby branches to clip the offset corrected image are avoided with the saturation arithmetic.

[c22] The system of claim 14 wherein the first adjusting includes a linear transformation and wherein the second adjusting includes employing saturation to adjust the window.

[c23] The system of claim 14 including software for controlling the operation of the processor to perform the correcting, first adjusting, second adjusting and packing.